

## AMENDMENTS TO THE CLAIMS

1. (amended) An network-based voice communication system, comprising:

a) at least one voice communication server computer and

b) at least one call agent computer;

wherein said server computer(s) and said call agent computer(s) are interconnected by a computer network;

said server computer(s) ~~being~~ is downloaded with a VOIP server software to receive VOIP calls, and to terminate the calls at an ordinary phone via a termination device; and wherein

said call agent computer(s) ~~being~~ are downloaded with a call agent program to initiate a VOIP session with the said server computer(s) and to allow a caller to input desired data ~~not limited to~~ including entering an IP address, selecting one IP address from a directory, entering a telephone number and selecting one telephone number from a directory to facilitate a call;

said one server computer and said one call agent computer forming a pair and working under a client-server architecture and the pair jointly managing the VOIP session;

said server computers and said call agent computers ~~in~~ forming a cluster of multiple units, ~~any number of millions,~~ working under a distributed architecture;

~~whereby the voice communication system serves the basic voice communication~~

~~needs in a simple, ease to install, ease to use and ease to manage manner with great~~

~~cost savings and productivity.~~

wherein said server computer is loaded with a call agent program to function as a call agent computer;

wherein said call agent computer is loaded with a VCS server program to function as a communication server with a termination device added to facilitate VCS system test and additional application in the category of branch-to-branch voice and data communication; and

wherein a number of said server/call agent computers are orgnized to perform a tie-line communication function between several branches.

2. (amended) A network-based voice communication system in accordance of claim 1,

wherein said server computer is equipped with a full-duplex sound card with an appropriate driver supported by the computer operating system for handling digital voice transmission and processing;

wherein said a server software program is programmed to handle a single communication session initiated by the said call agent and to handle the VOIP traffic with communication interface to ~~the~~ a set of standard protocols and voice interface to ~~the said~~ a sound card to process voice signal, analog to digital and vice versa, and voice compression and decompression using a CODEC module;

wherein said protocol standards is selected from the family of VOIP communication protocols; ~~such as H.323/H.245, RTP/RTCP and SIP;~~ and

wherein a CODEC code is selected from the family of G723.1, G729, GSM, H261, H263 and G711.

3. (amended) A network-based voice communication system in accordance of claim 1,

wherein said server computer is equipped with a standards-compliant termination device selected from the family of voice modem, PBX and VOIP gateways with an appropriate driver supported by the computer operating system for handling voice traffic and terminating a VOIP call to a PSTN telephone;

wherein said a server software program is programmed to handle a single communication session initiated by the said call agent and to handle the VOIP traffic with communication interface to the standard protocols, voice interface to ~~the said~~ a sound card to process voice signal, analog to digital and vice versa, and voice compression and decompression using a CODEC module and interface to the termination device; wherein the protocol standards is selected from the family of VOIP communication protocols; ~~such as H.323/H.245, RTP/RTCP and SIP and~~

wherein a CODEC code is selected from the family of G723.1, G729, GSM, H261, H263 and G711.

4. (amended) A network-based voice communication system in accordance of claim 1 wherein the said call agent computer is multimedia enabled with a full duplex sound card, two speakers and one microphone for VOIP application;
- 5 wherein the said call agent computer is programmed to initiate a communication session with the said server computer compliant to the standard communication protocols; and
- wherein the said call agent computer is programmed to handle and monitor the voice session with data input, call and hang-up capabilities.
- 10

5. (amended) A network-based voice communication system in accordance with claim 1 wherein
- said call agent computer has a network interface, a web browser, and an e-mail application compatible with said call agent computer operating system for facilitating
- 15 on-line interaction.

6. (cancelled, amended with claim 1) ~~A network-based voice communication system in accordance of claim 1~~

~~Wherein the said server computer can be connected to a specific brand of PBX system so can be loaded with a call agent program to function as a call agent computer as well;~~

20 ~~wherein the said call agent computer can be loaded with a VCS server program to function as a communication server as well with a termination device added to facilitate VCS system test and additional application such as branch to branch voice communication; and wherein a number of said server/call agent computers are organized to perform a time line communication function between several branches.~~

- 25 7. (amended) A network-based voice communication system in accordance of claim 1 wherein at least one of the said server computers can be is connected to a specific brand of PBX system so to terminate the VOIP call by dialing the PBX system with less than full length of telephone number code;

wherein at least one of the said server computers ~~can be~~ is connected to a VOIP gateway device to terminate more than one voice session at a time; and

wherein at least one of the said server computers ~~can be~~ is connected to a voice modem to terminate one dedicated voice session.

- 5 8. (amended) A method of establishing a working voice communication system with VOIP capability of receiving VOIP calls, terminating such calls at and interfacing with an ordinary telephone ~~via a termination device such as a voice modem, PBX, and VOIP gateway~~ and designating at least one local phone number ~~into~~ as an e800 number into an e800 directory as defined in this invention for e-commerce applications
- 10 comprising of: an automated process for making a request for downloading voice communication server program and call agent software, under control of a web site supported by a web server and a number of other servers (~~mail server, dial-up server, solution server, form/data server~~) resident in one or more computer servers,
- 15 displaying information about the voice communication system;
- responding to requests of downloading the voice communication system;
- capturing the requester identification and user profile;
- establishing the system configuration for operating the voice communication system;
- 20 accepting and submitting the IP addresses for operating the voice communication systems;
- downloading the voice communication system server software;
- downloading the call agent software;
- activating the voice communication system server software; and
- testing and running the voice communication system;
- 25 all in one continuous ~~and sequential one step~~ process with freedom to pause the process;
- under the control of a mail server,
- authenticating and conveying the ~~registrant's~~ ID code of the registrant;
- authenticating and confirming payment received;

under control of a solution server,

delivering the voice communication system server software;

delivering the default ad image file;

delivering the call agent software;

5 delivering the call agent web icon instruction file and web icon file, address book and directory data;

under the control of an encryption engine,

creating the activation code corresponding to an IP address submitted;

delivering the activation code to the requester through the mail server;

10 under the control of a form server,

allowing forms to be presented to and filled by the requester;

under the control of a dial-up network server,

allowing remote dial-in and network connection to perform call agent test,

under control of a Voice Communication System server and any number of call agent  
15 computers,

performing VOIP call test with a call agent;

whereby the request of establishing a working voice communication system can be accomplished with a ~~continuous~~ an on-line process in the end producing a working voice communication system to serve multiple business entities.

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9. (amended) ~~A system supporting~~ The method in claim 8

wherein the said server functions can be are performed by ~~any specified number of more than one~~ computer servers with said server functions divided and served in concert to fulfill the objectives of the claimed method and with said voice  
25 ~~communication server and call agent computer having specifications in accordance of claims 1-7~~

10. (amended) The method of claim 8

wherein the registration step creates a requester ID code for a requester to suspend and resume the requisition process at will;

wherein the activation step creates an activation code to insure said server program from being copied and misused; and

wherein the activation code ~~can be~~ is set to expire within a specified time, ~~so that the owner of the activation code must request for~~ requiring reactivation ~~when the activation code expires~~ upon expiration.

5 11. (amended) The method of claim 8

wherein the displaying of information ~~includes~~ comprising: displaying the voice communication system architecture, system operation procedure, requirement of system configuration, procedures of establishing said voice communication system, personal  
10 ID, personal profile, system configuration data, download procedure, server program instruction, call agent program instruction, call agent icon image and instruction and ad image file and instruction ~~all by an on-line process~~;

wherein the download processes ~~include~~ comprising: VCS server program, call agent program, ad image file, call agent web icon file, instruction for incorporating web icon  
15 file, instruction for replacing ad image file with ~~merchant's own~~ the ad image file of the merchant's own and the activating VCS system, including information to reset firewall to permit VOIP transmission; and

wherein a number of parties can perform the request, install and any part of ~~the entire~~ said procedures of establishing said voice communication system simultaneously to  
20 construct a multi-party VCS solution. ~~to serve themselves and the public.~~

12. (amended) The method of claim 8

wherein the activation process ~~includes~~ comprising the usage of an encryption engine to generate an activation code using a number of known algorithms;

wherein one algorithm encrypts ~~the~~ said IP address to produce an activation code;

25 wherein ~~the~~ said download VCS server program is imbedded with the corresponding decryption algorithm with the activation code required for decryption; and

wherein ~~the~~ said activation code ~~can be~~ is a special code which will expire within a specified time, ~~so that the owner of the activation code must request reactivation after~~ expiration requiring reactivation upon expiration.

## 13. (amended) The method of claim 8

wherein the server software is programmed to allow specific phone numbers to be included in the working directory ~~as well as~~ and to allow large group of phone numbers defined by a specific code comprising country code, area code, specific exchange and  
5 any the combination of such said codes to be included in the working directory; and wherein the complementary of the working directory, (reversing the allowed numbers to be not allowed and vice versa), ~~can be~~ is easily activated by a reverse action through a program input.

14. (amended) A call agent ~~program~~ software in accordance of claim ~~1~~ and 8

10 wherein the said call agent software ~~program~~ acts like a browser window which can receive advertising image file or animation file to be displayed in its user interface and wherein ~~the~~ said call agent software ~~program~~ can accept download of data such comprising of address book and directory entries.

15. (amended) A call agent ~~software~~ program in accordance of claims ~~1~~ and 8

15 wherein the call agent software ~~program~~ ~~can be~~ is launched from the call agent computer by ~~any of the following~~ means comprising: from web page, from computer screen interface ~~such as desktop and a hand held telephone~~ from an interface of a hand-held communication device with its base station connected to the Internet connected call agent computer;

20 wherein the call agent software ~~program~~ contains as address book; and wherein the call agent software ~~program~~ contains generic functions not specific to any specific merchant so any merchant can make it downloaded freely from the web page belonging to the merchant ~~merchant's web page.~~

## 16. (amended) An Internet-based e800 directory system comprises:

25 at least one VOIP gateway computer;  
at least one call agent computer; and at least one server computer;  
said gateway computer(s) having termination capability for at least one voice session with a PSTN telephone;

said call agent computer(s) being loaded with a call agent program to initiate a VOIP session with the said gateway computer(s) and to allow a caller to input desired data ~~not limited to~~ comprising: entering an IP address, selecting one IP address from an e800 directory, entering a telephone number and selecting one telephone number from an e800 directory to facilitate a call;

wherein said server computer having a web server for rendering a web site program to receive request for designating a local phone number to be an e800 number, to list said e800 number in an e800 directory, to display said e800 directory when requested by a requester through a network browser and to facilitate placing a call agent icon next to the e800 number in the e800 directory;

said web server computer being loaded with form server program to provide on-line registration and on-line payment processing for accepting purchase of the e800 directory service; and

said web server computer being loaded with file download program to provide instant download of the call agent program, the e800 directory server program ~~as well as~~ and the e800 franchise agreement file.

17. (amended) A database in accordance with claim 8 ~~and~~ 16 is used

wherein the IP addresses and user profile information and other information collected through interactive sessions are incorporated in the e800 directory and the call agent address book, all ~~and~~ made available for user to query.

18. (amended) The ~~web icon of call agent icon program~~ in accordance with claim 8 ~~and~~ 16 designates the availability of an call agent program by download and signifies the capability to facilitate a direct call to a designated number with a single click when said call agent icon is placed next to the e800 number of an e800 directory on a web page. ~~is placed on a merchant's web page and next to the e800 number of the e800 directory to facilitate a direct call to a designated number with a single click.~~

19. (amended) A method of establishing an automated sale and distribution of e800 number service in accordance of claim 16 comprises of: ~~part of the methods in claim 8 wherein~~



~~only specific information and processing steps relevant to e800 number service are used.~~

Making available the Internet-based e800 directory system, downloading the call agent program, designating the local phone number as an e800 number, placing the call agent icon, displaying e800 directory, providing on-line registration, and processing on-line payment;

whereby a requester can submit a local phone number to be designated as an e800 number by paying a registration and subscription fee; and whereby the e800 directory owner can sell the e800 directory service through an on-line process.

20. A method in accordance of claims 8 and 19 ~~are~~ is prepackaged as a turn-key system and is loaded on a storage medium such as a CD for sales, installation, activation and testing of said voice communication server system. ~~and e800 number service~~